

JP 04-017,162

Code: 1505-75698

JAPANESE PATENT OFFICE (JP)
PATENT JOURNAL (B2)
KOKOKU PATENT NO. HEI 4[1992]-17162

Int. Cl. ⁵ :	A 61 K 7/02 7/00
Sequence Nos. for Office Use:	9051-4C
Filing No.:	Sho 60[1985]-33381
Filing Date:	February 21, 1985
Kokai No.:	Sho 61[1986]-194009
Kokai Date:	August 28, 1986
Publication Date:	March 25, 1992
No. of Inventions:	1 (Total of 4 pages)

MAKE-UP COSMETIC MATERIAL

Inventor:	Asao Harashima 1-6 Ariakidai-Nishi, Ichihara-shi, Chiba-ken
Applicant:	Toray-Dow Corning Silicone Co., Ltd. 2-8 Muromachi, Nihonbashi, Chuo-ku, Tokyo
Examiner:	Tomoko Saeki
Reference document:	Japanese Kokai Patent Application No.: Sho 58[1983]-39609 (JP, A)

[There are no amendments to the patent.]

Claim

1. A make-up cosmetic material characterized by the fact that it contains an organopolysiloxane cured material powder with a particle diameter of less than 100 μm , a pigment powder, and a binding oil agent.

Detailed explanation of the invention

Industrial application field

The present invention relates to a make-up cosmetic material. More specifically, it relates to a make-up cosmetic material containing an organopolysiloxane cured material powder.

Prior art

Conventionally, as powders used in a make-up cosmetic material, talc, kaolin, bentonite, silicic acid anhydride, silicon carbide, alumina, titanium oxide, carbon black, graphite, yellow iron oxide, prussian red, mica, mica titanium, zirconium oxide, sericite, calamine, ultramarine and other inorganic pigment powders have often been utilized.

Furthermore, cases are also known in which polyethylene resin, polypropylene resin, polyamide resin, acryl resin, vinyl chloride resin, epoxy resin, polystyrene resin, or other organic resins are added into cosmetic materials (please refer to Japanese Kokai Patent Application No. Sho 52[1977]-99236).

Problems to be solved by the invention

However, the inorganic pigment powders for use in make-up cosmetic materials previously mentioned have disadvantages in which they lack clearness of the color phase, coloring power, and transparency. Furthermore, said inorganic pigment powders are generally manufactured by the pulverization of natural minerals. Since the particle shapes are irregular, they have a disadvantage of lacking smoothness and spreadability during coating as make-up cosmetic materials.

Furthermore, even in the case of addition of organic synthetic resin powders into cosmetic materials, there has been no effect of rendering natural color.

With an objective to eliminate the disadvantages previously mentioned, the present invention provides a make-up cosmetic material having a smooth coating feel and a gentle touch and a capability of rendering a healthy, natural color.

Means to solve the problems and explanation of function

The objective previously mentioned can be achieved by a make-up cosmetic material characterized by the fact that it contains an organopolysiloxane cured material powder with a particle diameter of less than 10 μm , a pigment powder, and a binding oil agent.

In explanation, the organopolysiloxane cured material powder used in the present invention is a necessary component to smoothen the coating feel of the make-up cosmetic material of the present invention on the skin, to render a gentle feel, to provide a clear color phase, coloring power, and transparency with respect to the pigment, and to render a healthy color.

There are no special restrictions on the types of curing organopolysiloxane compositions as a feedstock of the organopolysiloxane cured material powder of the present component. An organopolysiloxane elastomer composition cured by an addition reaction in the presence of a platinum catalyst, an organopolysiloxane elastomer composition cured by a condensation reaction (here, as condensation reactions, dehydration, dehydrogenation, alcohol removal, oxide removal, deamination, deamidation, decarboxylation, and ketone removal are exemplified), an organopolysiloxane elastomer composition cured by an organic peroxide under heating, an organopolysiloxane elastomer composition cured by x-ray, ultraviolet ray or electron beam irradiation, or an organopolysiloxane resin composition cured by various reactions previously mentioned can be exemplified.

As the organic groups bonded to silicon atoms of organopolysiloxane as the major component of the curing organopolysiloxane composition previously mentioned, monovalent hydrocarbon groups can be exemplified. In these, monovalent hydrocarbon groups having a methyl group, ethyl group, propyl group, butyl group, octyl group or another alkyl group, vinyl group, allyl group, propenyl group or another alkenyl group, 2-phenylethyl group, 2-phenylpropyl group, 3,3,3-trifluoropropyl group or another substituted alkyl group, phenyl groups, tolyl group, xylyl group, or another aryl group, phenyl ethyl group or another substituted aryl group, epoxy group, amino group, hydroxyl group, carboxyl group, carboxylic acid ester group, or mercapto group and so on can be exemplified.

This component can be manufactured by a method in which a thermosetting composition with the previously mentioned organopolysiloxane as the major component is sprayed into a hot gas stream and then cured to obtain a powder; a method in which an energy ray curing composition with the previously mentioned organopolysiloxane as the major component is sprayed under high energy irradiation and cured to obtain a powder;

a method in which a material obtained by heating of a thermosetting composition with the previously mentioned organopolysiloxane as the major component or by an energy ray curing composition with the previously mentioned organopolysiloxane as the major component, is pulverized with a ball mill, an atomizer, or another publicly known pulverizing machine to obtain a powder; etc.

It is necessary that the particle size of the present invention be less than 100 μm in order to render smoothness, a gentle feel, and a healthy, natural color feel to the make-up cosmetic material of the present invention.

There are no special restrictions on the amount of blending of the present component since it varies with the usage condition of the cosmetic material. For pressed make-up cosmetic material, it is preferably 1.0-50 wt%. Furthermore, for liquid make-up cosmetic material, it is preferably 0.1-30 wt%.

The make-up cosmetic material of the present invention can be obtained by uniform dispersion and blending of an organopolysiloxane cured material powder, a pigment powder, and a binding oil agent.

As pigment powder, talc, kaolin, calcium carbonate, magnesium carbonate, magnesium silicate, silicic acid anhydride, or other constitutional pigments, titanium oxide, zinc oxide or other white pigments, prussian red, yellow iron oxide, chromium oxide, chromium hydroxide, carbon black, ultramarine, or other inorganic coloring pigments, tar dye, red flower dye, β -carotin, cochineal, chlorophyll or other organic coloring pigments, color scale foil, bismuth oxychloride, mica titanium, mica or other pearl pigments and so on can be exemplified.

As the binding oil agent, liquid paraffin, squalane, vaseline, polyisobutylene, micro wax, isopropyl myristate, myristyl octyl docecanol, di-(2-ethylhexyl) succinate, diisooctanoic acid neopentyl glycol, monostearic acid glycerin, isostearic acid triglyceride, coconut oil fatty acid triglyceride, castor oil, ethanol, octyl dodecanol, hexadecyl alcohol, cetyl alcohol, oleyl alcohol, stearyl alcohol, polyethylene glycol, lauric acid, palmitic acid, oleic acid, stearic acid, isostearic acid, lanolin, beeswax, olive oil, and other hydrocarbons, esters, glycerides, lower alcohols, higher alcohols, polyvalent alcohols, higher fatty acids, organopolysiloxane fluids and so on can be exemplified.

In the make-up cosmetic material of the present invention, if necessary, water, surfactant, thickener, preservative, perfume and so on may also be blended.

Application example

The present invention will be explained with application examples in the following.

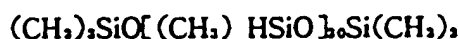
In the application examples, "parts" refers to parts by weight.

Application Example 1

100 parts of two-terminal dimethyl vinyl silyl group blockaded dimethyl polysiloxane represented by the formula,



3.5 parts of two-terminal trimethyl silyl blockaded methyl hydrogen polysiloxane represented by the formula,



0.1 part of 3-methyl-1-butyn-3-ol, and a chloroplatinic acid isopropanol solution at an amount of 10 ppm as platinum metal with respect to the total amount of organopolysiloxane were uniformly mixed and cured at 150°C for 2 h. This organopolysiloxane elastomer cured material was microfinely pulverized with an atomizer. The organopolysiloxane cured material powder obtained was confirmed to have a particle diameter of 1-50 μm by observation with a scanning type electron microscope.

Next, by using this organopolysiloxane cured material powder, an oily eye liner with a composition shown in Table 1 was manufactured. Furthermore, a material without the addition of an organopolysiloxane cured material powder was used as a comparative example.

A coating test was carried out using these oily eye liners with a panel of 10 persons. As a result, the oily eye liner of the present invention, in comparison to the comparative example, formed a vivid eye liner with depth in color. Furthermore, it had a gentle touch, and the coating feel was also smooth.

Application Example 2

500 parts of a hydrochloric acid aqueous solution with pH adjusted to 4.0 were added into 20 parts of trimethoxy silane, 50 parts of dimethyldimethoxy silane, 20 parts of trimethylmethoxy silane, and 30 parts of tetraethyl silicate, and hydrolysis and condensation was carried out for 5 h. The result was dried by heating to obtain an organopolysiloxane resin cured material. Next, this organopolysiloxane resin cured material was microfinely pulverized with an atomizer. It was confirmed that the organopolysiloxane resin cured material powder obtained had a particle diameter of 0.5-10 μm by observation with a scanning type electron microscope.

A foundation (a press-molded material) with a composition shown in Table 2 was manufactured using this organopolysiloxane cured material powder. Furthermore, a material without the addition of organopolysiloxane cured material was used as a comparative example.

A coating test was carried out using the foundations with a panel of 10 persons. The foundation of the present invention, in comparison to the comparative example, yielded a healthy, natural skin color. Furthermore, it had a smooth coating feeling and a gentle touch.

Table 1

①	カルナバロウ	5.3部	⑬
②	ミツロウ	9.0部	
③	マイクロクリスタリンロウ	9.7部	
④	白色ワセリン	1.0部	
⑤	流動パラフィン	20.0部	
⑥	デカメチルシクロペンタシロキサン	18.0部	
⑦	両末端トリメチルシリル基封鎖ジメチルポリシロキサン[粘度2センチストークス(25℃)]	32.0部	
⑧	有機ベントナイト	0.5部	
⑨	酸化チタン	1.5部	
⑩	カーボンブラック	3.0部	
⑪	オルガノポリシロキサン硬化物粉体	5.0部	
⑫	防腐剤	微量	⑭

- Key:
- 1 Carnauba wax
 - 2 Beeswax
 - 3 Microcrystalline wax
 - 4 White vaseline
 - 5 Liquid paraffin
 - 6 Decamethylcyclopentasiloxane
 - 7 Two-terminal trimethyl silyl group blockaded dimethyl polysiloxane (viscosity 2 centistokes (at 25°C))
 - 8 Organic bentonite

- 9 Titanium oxide
 10 Carbon black
 11 Organopolysiloxane cured material powder
 12 Preservative
 13 Parts
 14 A trace amount

Table 2

① 酸化チタン	12.0部	⑫
② 酸化亜鉛	9.5部	
③ カオリン	35.0部	
④ タルク	20.0部	
⑤ ベンガラ	0.8部	
⑥ 黄酸化鉄	2.5部	
⑦ 黒酸化鉄	0.2部	
⑧ 流動パラフィン	4.0部	
⑨ オクタメチルシクロテトラシロキサン	5.0部	
⑩ 両末端トリメチルシリル基封鎖ジメチルポリシロキサン[粘度2センチストークス(25℃)]	5.0部	
⑪ パルミチン酸イソプロピル	3.0部	⑬
⑫ グリセリン	3.0部	
⑬ オルガノポリシロキサン硬化物粉体	7.0部	
⑭ 防腐剤	微量	
⑮ 香料	微量	

- Key: 1 Titanium oxide
 2 Zinc oxide
 3 Kaolin
 4 Talc
 5 Prussian red
 6 Yellow iron oxide
 7 Black iron oxide
 8 Liquid paraffin
 9 Octamethylcyclotetrasiloxane
 10 Two-terminal trimethyl silyl group blockaded dimethyl polysiloxane (viscosity 2 centistokes (at 25°C))
 11 Palmitic acid isopropanol

- 12 Glycerin
- 13 Organopolysiloxane cured material powder
- 14 Preservative
- 15 Fragrance
- 16 Parts
- 17 A trace amount

Effect of the invention

According to the present invention, it is possible to provide a make-up cosmetic material having a smooth coating feel and a gentle touch and rendering a healthy, natural color feel, since it contains an organopolysiloxane cured material powder with a particle diameter of less than 10 μm , a pigment powder, and a binding oil agent.